

## REMARKS

Claims 13-17, 34-39, 42-44, 48-52, 56, and 58-62 are currently pending in this application.

### Summary of Telephonic Interview

In accordance with 37 C.F.R. § 1.133(b) and M.P.E.P. § 713.04, Applicants herein provide a summary of the telephonic interview of May 30, 2008, where Robert Lampe, III and Robin Teskin met with Examiner Chih Min Kam, Ph.D. Applicants and their representatives greatly appreciate the courtesies extended by the Examiner during the interview. During the interview, Applicants' representatives presented arguments addressing the teachings of the Kaneko reference with respect to the obviousness rejection. The Examiner requested that Applicants submit a response setting forth these arguments addressing the Kaneko reference, and the Examiner advised that she would subsequently consult with Quality Assurance Examiner Mr. Robert Wax or her Supervisor concerning Applicants' response and the current office action in order to expedite prosecution.

### Rejections

#### *Brief Summary of Applicants' Position Regarding the Teachings of Kaneko*

Applicants submit that the cited U.S. Patent No. 5,075,226, to Kaneko *et al.* (December 24, 1991) (hereinafter "Kaneko") does not render the claimed subject matter obvious for at least the reason that Kaneko fails to discuss or contemplate isolating any starter culture from the fermentation process in Kaneko, and hence does not suggest using any cells, culture solutions or concentrates derived from the fermentation process for subsequent culturing steps or as a starter culture. Furthermore, Kaneko does not mention freeze-dried, frozen, or starter cultures. Kaneko does not discuss or contemplate the isolation or harvesting of these bacteria from the end products *following completion of the fermentation process* described in Kaneko for any use, much less as an isolated starter culture.

35 U.S.C. § 103(a)

Claims 13-17, 35-39, 43, 44, and 58-61 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Kaneko.

Applicants respectfully disagree and traverse this rejection.

Pending claim 13 is drawn to an isolated starter culture comprising at least one modified lactic acid bacterial cell wherein said at least one modified lactic acid bacterial cell comprises at least 0.1 ppm on a dry matter basis of a porphyrin compound which includes iron, wherein said at least one modified lactic acid bacterial cell is obtainable by culturing in a medium containing a protoporphyrin compound or its complexes with an iron atom, wherein said starter culture is in the form of a frozen or freeze-dried culture, and wherein said starter culture comprises an amount of viable modified lactic acid bacterial cells which is at least  $10^8$  CFU per gram. Applicants respectfully submit that the claimed subject matter is not rendered obvious by the teachings of Kaneko.

Applicants respectfully submit that the bacterial cultures as described by Kaneko are used to produce diacetyl and acetoin, but that there is no discussion or contemplation of isolating any starter culture from the fermentation process in Kaneko. Kaneko teaches that “[t]he culture solution or a concentrate thereof can be used to increase or improve the flavor of foods such as butter, margarine, cheeses, shortening, confectionery, creams, etc., in only small amounts.” See Kaneko, column 5, lines 6-10 (emphasis added). This is an end use. In other words, the resulting solution or concentrate thereof is added to a food product(s) which is intended for consumption. Kaneko does not suggest using any cells, culture solutions or concentrates derived from the fermentation process for subsequent culturing steps or as a starter culture.

Applicants reiterate that it is likely that the resulting diacetyl/acetoin would be isolated from impurities and other unwanted components in the culture medium before addition as a flavor enhancer to butter, cheeses, etc. Applicants submit that components such as animal tissue and living bacterial cells are likely unwanted components of a flavor enhancer for cheeses and butter, for example. Furthermore, Applicants submit that a culture solution is different than a culture medium, as a culture solution may reference, for example, a filtrate of the culture medium.

The Office Action also states that "... it is obvious that the culture solution containing the modified lactic acid bacteria can be stored in frozen or freeze-dried form for subsequent use." See Office Action, page , lines 6-8. While not acquiescing in the statement that frozen and freeze dried forms of the culture solution are obvious in light of the teachings of Kaneko (which do not mention freeze-dried, frozen, or starter cultures), Applicants submit that Kaneko does not teach or suggest using any cells, culture solutions or concentrates derived from the fermentation process for subsequent culturing steps.

Furthermore, it is Applicants' understanding that the substance increasing or improving the flavor of foods in the culture solution or concentrate is the mixture of diacetyl and acetoin, and not the *Lactococcus lactis* bacterial cells themselves. Kaneko does not instruct one of ordinary skill in the art to include the *Lactococcus lactis* cells in the culture solution that is added as a flavoring agent. For example, Kaneko states that "[d]iacetyl and acetoin in the culture can be concentrated by distillation, etc." See Kaneko, last line of column 4 extending to the first line of column 5. Applicants note the Office Action statement that "[w]hile Kaneko et al discloses that diacetyl and acetoin in the culture solution may be concentrated by distillation ... Kaneko et al does not indicate the *Lactococcus lactis* cells would be excluded from the culture solution produced by the culturing process ..." See Office Action, page 3, lines 17-20. Applicants reiterate that it is unclear whether bacterial cells would even survive a distillation process, let alone be useful as a starter culture.

As stated previously, there is no discussion or contemplation of the isolation or harvesting of these bacteria from the end products *following completion of the fermentation process* described in Kaneko for any use, much less as an isolated starter culture. See Kaneko, Examples 1-5. Accordingly, Applicants submit that claim 13 is not obvious in light of the teachings of Kaneko. The remaining rejected claims depend from claim 13 and incorporate all of the elements of claim 13, and therefore are not obvious on the same grounds that claim 13 is not obvious. Applicants respectfully request reconsideration and withdrawal of the rejection of claims 13-17, 35-39, 43, 44, and 58-61 under 35 U.S.C. §103(a) as allegedly unpatentable over Kaneko.

## Objections

Claims 34, 48-52, 56 and 62 were objected to as depending from a rejected claim. Applicants submit that claim 13 is not obvious for all of the reasons set forth above, and is therefore allowable. Accordingly, the objected claims should also be allowable for the same reasons as set forth above. Applicants respectfully request reconsideration and withdrawal of the objection to claims 34, 48-52, 56 and 62.

## CONCLUSION

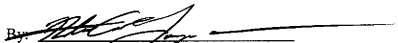
An indication of allowance of all claims is respectfully solicited. Early notification of a favorable consideration is respectfully requested. In addition, as noted above, and during the recent telephonic discussion with the Examiner, it is respectfully requested that if there is some question as to this response placing this application in condition for allowance that the Examiner further consult with a Quality Assurance Examiner so that prosecution may be expedited.

In the event any issues remain, Applicants would appreciate the courtesy of a telephone call to their counsel to resolve such issues and place all claims in condition for allowance.

Respectfully submitted,

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